REMARKS

Claims 1-32 are pending in the application.

Claim 17 is amended and new claim 32 is added.

In the PCT Search report of PCT/US2005/009653, of which this application is a national stage entry, the following references were raised:

US 2003/0060517 to Tucker, et al.

WO 02/066082 to McVey, et al.

U.S. Patent No. 5,852,229 to Josse, et al.

For the reasons outlined below, it is submitted that the pending claims distinguish patentably and unobviously over the cited references.

Claim 1 recites a method of deactivating biological or chemical agents in a large volume space with a convoluted configuration. The method includes isolating the space, introducing a deactivation gas into a plurality of subregions of the isolated space, which subregions are physically interconnected, circulating the deactivation gas within each subregion and from subregion to adjoining subregions, and continuing to introduce and circulate the deactivation gas until any biological or chemical agents in the space are deactivated.

Tucker discloses methods for neutralization and decontamination of chemical and biological "toxants." The toxant is generally treated with an activated foam solution. Paragraph [0075] of Tucker states that "A fog (e.g., aerosols with particulate sizes ranging from 1-30 microns) can be used to achieve effective decontamination in areas where decontamination by a foam would be difficult, if not impossible. One example is the interior of air conditioning ducts. A fog can be generated at registers and other openings in the duct and travel a significant distance inside of the duct to decontaminate hard to reach places."

Tucker makes no suggestion of isolating a space to be decontaminated. Rather, Tucker suggests that effective, rapid, and safe (non-toxic and non-corrosive) decontamination technology should be applicable to a variety of scenarios such as the decontamination of open, semi-enclosed, and enclosed facilities including a stadium (open), an underground subway station (semi-enclosed), and an airport terminal or office building (enclosed). Thus, one reading Tucker would assume that no isolation is necessary.

Further, Tucker does not disclose introducing a deactivation gas into a plurality of interconnected subregions of the isolated space, and circulating the deactivation gas within each subregion and from subregion to adjoining subregions, and continuing to introduce and circulate the deactivation gas until any biological or chemical agents in the space are deactivated. Rather, one reading this paragraph of Tucker would understand that a fog generated adjacent registers or other openings into a duct of an HVAC will decontaminate only a limited distance into the duct. Thus, Tucker is opposite in that instead of delivering the fog to a room via duct work, in Tucker some fog from a room being fogged escapes a short distance into any duct in the room.

McVey, assigned to the present Assignee, discloses a flash vaporizer (34) which provides a constant flow of vaporized hydrogen peroxide or other antimicrobial compounds for rapidly sterilizing large enclosures (10), such as rooms or buildings. The vapor is injected into dry air in a duct that circulates it to the large enclosure. (Abstract). There is no suggestion that McVey's hydrogen peroxide vapor could be used in place of Tucker's foam or fog for treatment of toxants.

Accordingly, it is submitted that here is no motivation to combine the Tucker and McVey references.

The Josse reference, which relates to sensors, makes no suggestion of such a method. Accordingly, it s submitted that claims 1-10 distinguish patentably and unobviously over the Tucker, McVey, and Josse references.

Claim 11 recites an apparatus for deactivating biological or chemical agents in a large volume space with a convoluted configuration which includes means for introducing a deactivation gas into a plurality of subregions of the space, which subregions are physically interconnected, means for circulating the deactivation gas within each subregion and from subregion to adjoining subregions, and means for controlling introduction and circulation of the deactivation gas until biological or chemical agents in the space are deactivated.

McVey decontaminates a single room or space. There is no suggestion in McVey of providing means for circulating a deactivation gas within each of a plurality of subregions of a space and from a subregion to adjoining subregions.

Accordingly, it is submitted that claims 11-30 distinguish over the McVey reference.

Claim 31 recites a computer control system for controlling deactivation of biological and chemical agents in a large volume space with a convoluted configuration. The computer control system includes a processor which is programmed with an algorithm for controlling isolation of the space, a routine or algorithm for controlling introduction of a deactivation gas into a plurality of subregions of the isolated space, which subregions are physically connected, a means for controlling circulation of the deactivation gas within each subregion and from subregion to adjoining subregions, a means for monitoring a multiplicity of concentration sensors, and a means for controlling at least one exhaust fan.

As noted above, McVey does not suggest controlling introduction of a deactivation gas into a plurality of subregions of an isolated space or a means for controlling circulation of the deactivation gas within each subregion and from subregion to adjoining subregions.

New claim 32 calls for a method of deactivating biological or chemical agents in a large volume space with a convoluted configuration. The method includes isolating the space, including an HVAC system used for heating and cooling the space, introducing a deactivation gas into a plurality of subregions of the isolated space, which subregions are physically interconnected, including connecting a source of deactivation gas with the HVAC system and introducing the gas into ducts of the HVAC system, circulating the deactivation gas within each subregion and from subregion to adjoining subregions, and continuing to introduce and circulate the deactivation gas until any biological or chemical agents in the space are deactivated.

Support for new claim 32 is to be found in original claims 1 and 9 the specification at page 6, lines 8-21 and page 8, lines 11-15.

The cited references do not suggest such a method.

CONCLUSION

The amendments made are considered to place the application in better condition for allowance and/or provide claims of different scope. An early indication of the allowability of the application is earnestly solicited.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is requested to telephone the undersigned at (216) 861-5582.

Respectfully submitted,

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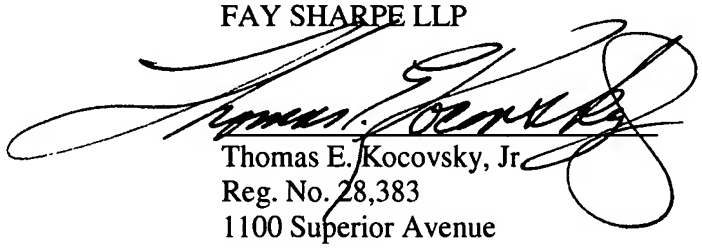

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